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MEMORANDUM FOR: Chief, Technical Services Group, NPIC
ATTENTION : Chief, Technical Operations Staff, TSG
SUBJECT : RED Monthly Report (December 1971)

Significant Items of Interest for December 1971:

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1. Rectification of Tone Reproduction - In a meeting

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[redacted] indicated that results of their low budget image enhancement feasibility study were not sufficiently favorable to warrant continued support of this task. This work resulted from a photoprocessing anomaly identified [redacted] and it showed promise as a means of enhancing underexposed imagery when it was applied to certain non-aerial film. However, when the process was applied to aerial films, the anomalous effect was not sufficiently strong to yield useable enhancement.

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3.

[redacted] to discuss color processing problems and techniques. During this meeting, the use of the [redacted] processor using E4 chemistry was approved for processing [redacted] will provide color control strips and proper aim-points for setting up the Exploratory Laboratory color processor.

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4. [redacted] A rough draft of the final report covering the five years of research under the contract will be received in January. [redacted] will be at NPIC the week of 23 January to discuss contents of the report.

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5. Impact Resistant Spectacles Research - Work is underway to test what effect a recent ruling by the FDA regarding error tolerance in prescription glasses might have on precise mensuration accuracy.

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GROUP 1
Excluded from automatic
downgrading and
declassification

Declass Review by NIMA/DOD

Approved For Release 2004/06/29 : CIA-RDP78B04747A000300020012-4
NRO review(s) completed.

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6. Search Improvement Program [REDACTED] Sixteen interpreters were selected by IEG management to serve as subjects in the Search Improvement Program. Each PI was interviewed by [REDACTED] personnel, and contributed to an extensive search improvement survey. Data collection of search performance will begin in early January. [REDACTED] (ATB) completed the first phase of data collection on a program to test these subjects' peripheral acuity. The study will be repeated on a monthly basis throughout the summer.

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7. Equipment Development Support [REDACTED]

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a. Image Comparison Microstereoscope - Data collection was completed on the Viewing Modes Evaluation for the ICM.

b. Scan and Search PI Station - [REDACTED] personnel attended the preacceptance testing of the Station [REDACTED] Information obtained from this meeting will be included in a detailed test plan for the operational suitability testing of the instrument. The plan will be presented to ATB/HFS for acceptance in early January.

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[REDACTED]

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9. Training Needs Associated with Color Photography - [REDACTED] ATB/HFS has received [REDACTED] "Center Color Training Needs, Courses, and Implementation Guidelines". This is the final technical document to be received from the contractor under the FY-71 program. The Center components will be requested to review the recommendations cited therein.

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10. Color Vocabulary Handbook - ATB/HFS has proposed an in-house task team to author a "Color Vocabulary Handbook". The "Handbook" will be designed to train personnel in the use of the several levels of the Color Vocabulary recommended by [REDACTED] for adoption in the Center.

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11. Color Technology Implementation [REDACTED] Ninety percent of the work orders are complete; the [REDACTED] Tintometer, a visual comparison colorimeter, was received-- it is a deliverable item under this contract.

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12. Consultation Task [redacted] - A technical meeting [redacted] is planned for February [redacted]. The purpose of this discussion is to exchange technical results from the various government-funded color research programs.

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13. Digital Image Manipulation Support to DDS&T/ORD/AP - Image manipulation experiments were conducted on 15 December in ATB [redacted] and ATB personnel for DDS&T/ORD/AP to test the reliability of an electromagnetic detector. Results obtained using the Image Translation Facility allowed contrast enhancement of data plots which differentiated between wooden and metal boxes behind a wall. This was the first successful test of the ORD electromagnetic detector.

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16. Software for the Minimum Contact Densitometer - [redacted] (PSG/AID) met with [redacted] to discuss software requirements for the Minimum Contact Densitometer being built [redacted]. This instrument is due for delivery in June 1972. A two-part software package was defined: Part I, which covers minimum instrument performance, is required by the June delivery to permit early instrument check-out; and Part II, which allows full realization of instrument capability, is required by December 1972. [redacted] felt that AID could fulfill our needs and that the time scale was realistic.

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17. SDB personnel have completed the assembly and typing of the EXRAND Technical Task Team Fourth Annual Report: Consolidated R&D Project List for FY 1972 and 1973. This report was distributed to the community in mid-December.

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18. [] has prepared a users manual for RADICIS, the NPIC Research and Development Contract Information System.

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19. [] has been investigating suitable materials for use in flexible hold-down configurations.

20. The following proposals are currently being evaluated:

a. Advanced Photometer [] 25X1A

b. Vibration Elimination [] 25X1A

c. MTF Analyzer - Phase 2 [] 25X1A

d. Dry Silver Color Research [] 25X1A

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e. Improved Film Hold-Down for High Magnification Viewing []

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f. Interpupillary and Rotational Lock for Zoom 240 []

21. CRT Image Quality Evaluation [] began conducting their objective engineering measurements on the CRT's and will be prepared to begin the subjective tests, with NPIC photo interpreters, in late January or early February [] has submitted a change-in-scope proposal for reformatting the magnetic tape data given to them by OSP through NPIC. 25X1A

22. Digital Image Storage Study [] The contractor is developing evaluation criteria for memory systems in order to rate the relative effectiveness of the various systems. Work is proceeding slowly pending receipt of the necessary special project clearances. 25X1A

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23. Viewing Systems Study [] The manuscript for the first four sections of Volume II are nearing completion. [] is scheduled to review and evaluate these sections in the latter part of February. 25X1A

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24. Lenticular Rear Projection Screen [REDACTED]
Delivery of the anticipated 4" x 4" sample of the lenticular screen has been delayed until 15 February 1972; however, we do not anticipate that delivery of the two 30" x 30" screens, scheduled for July, will be affected.

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28. Stereo Scanning Utility Study [REDACTED] During December, the contractor and selected IEG PI's outlined search areas and annotated one-third of the target readout test imagery. That task will be completed in January, and a start will be made in developing TR Scoring Rules. In-house requirements have limited contractor access to the HPSC and this, along with changing schedules for HPSC programming, have lengthened the test preparation phase. We now anticipate a mid-June start for the Target Readout Test, with Special Target Search Test preparation to continue beyond that date. This, along with the as yet undetermined equipment set-up problem, will substantially affect the previously submitted change-in-scope estimate.

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29. Automatic Focus Control Breadboard [REDACTED] The project monitor visited the contractor during December. The results of some preliminary tests indicate that the basic design concept is valid; however, the commitments [REDACTED] to other NPIC contracts have delayed completion of the project by approximately three months.

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30. [redacted] (ESD) performed pre-acceptance tests on PI Scan & Search Station [redacted] during the period 13-17 December. The instrument failed to meet specifications. The instrument will be tested again in mid-March after the deficiencies are corrected.

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31. [redacted] (ESD) performed pre-delivery tests on the PI Print Station (PIPS). The PIPS met all specifications and will be delivered to NPIC early in January. ESD and IEG will perform additional test and evaluation on the PIPS during January.

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32. [redacted] report that they have corrected the heat and stabilization problem on the calibration device for the HPSC. The calibration device was returned to NPIC on 17 December and is undergoing evaluation on the HPSC.

33. [redacted] completed the preacceptance tests on the [redacted] light table as configured for DIA. The table was shipped by air and received in the Center during the week of 5 December. Testing and evaluation by ESD will begin early in January.

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34. [redacted] (ESD) completed the preacceptance tests on the Optical Test Kit [redacted] from 7-8 December. Several recommendations were made on improving the Operational Manual for the kit. The kit will be delivered to the Center early in January.

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35. [redacted] delivered and installed an antivibration retrofit kit on an [redacted] light table. Preliminary indications are that this kit decreased vibration by a factor of 10. ESD is expected to test and evaluate the kit during January.

36. Meetings, Briefings, etc.:

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a. [redacted] attended a briefing on an [redacted] Scanning Densitometer at TOPOCOM, Bethesda, Md., on 14 December.

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b. [redacted] accompanied [redacted] to review a CRI display evaluation test plan.

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c. [redacted]
(RED optics consultant) met with:

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1) [redacted] review
Volume II of the "Viewing Systems Handbook".

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2) Personnel [redacted]
[redacted] to view a recent development in rear
projection viewing displays.

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3) Personnel [redacted]
[redacted] to review human factors research in the design
of optical viewing systems.

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d. [redacted] briefed the Color Exploitation Working
Group on ATB's color research programs. Special emphasis was
placed on the Color Vocabulary as proposed [redacted]

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e. [redacted] briefed [redacted] on 14
December 1971 on the NPIC Color R&D Program.

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f. [redacted]
were briefed [redacted]
Process. This process, which is commercially oriented as a
pre-press proofing system, demonstrates promise as a dry method
for producing high color quality reflection prints of [redacted]
imagery. [redacted] felt that the process indeed showed pro-
mise. In addition, they offered constructive suggestions on
color measurements and stability, and on-screen line densities
for inclusion in the scope of a proposed R&D project.

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f. [redacted] briefed the Director/NPIC on the [redacted]
10" x 10" Stage Stereo Comparator.

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g. [redacted] briefed [redacted] (OCI) on the
High Precision Stereo Comparator.

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h. [redacted] briefed IEG on the proposed 15X eye-
pieces and 3X objectives for the Zoom [redacted]

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i. [redacted] briefed the Planning Staff on R&D con-
tracts and the RADCIS Computer Program.

37. Personnel:

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